Brown Felt Blight

Snow mold of conifers (also called bear wipe)

Pathogen—Two fungi cause brown felt blight: *Neopeckia coulteri* and *Herpotrichia juniperi*. These fungi are commonly referred to as snow molds.

Hosts—Almost all high-elevation conifers are susceptible to brown felt blight. *Neopeckia coulteri* generally infects only pines. *Herpotrichia juniperi* infects a variety of conifers, including Engelmann spruce, Colorado blue spruce, subalpine fir, Douglas-fir, lodgepole pine, and whitebark pine.

Signs and Symptoms—The most obvious sign of snow mold is the felt-like mat of mycelium that grows on infected twigs and branches (figs. 1-2). Under careful inspection, black, globose fruiting bodies may be visible on the mycelium. The two fungi can be differentiated based on host preference or by microscopic examination of spores. The latter is necessary for specific identification in pines.

Disease Cycle—The fungi develop beneath the snow and produce thick, gray, felt-like mats of mycelium that smother needles, branches, and twigs. *Neopeckia coulteri* is able to penetrate living needles, while *Herpotrichia juniperi* enters needles and twigs after they are dead. As snow melts, mycelium turns gray to black, and fungal growth ceases. Spherical, black fruiting bodies (perithecia) may be visible protruding from mycelium during the second summer. Spread occurs when needles come into contact with infected litter or spores under snow. The disease is favored by deep, long-lasting snow packs.

Impact—Damage from brown felt blight may result in branch death and growth loss. Severe infections on seedlings and saplings may lead to mortality, but the disease has little effect on larger trees.

Management—Brown felt blight usually does not warrant management. Possible management options for high-value areas include installing snow breaks to divert snow pack from target areas and removing infected branches to reduce inoculum.

Figure 1. Close-up of brown felt blight on a lodgepole pine branch. *Photo: Kelly Burns, USDA Forest Service.*

Figure 2. Snow mold on Engelmann spruce. *Photo: Whitney Cranshaw, Colorado State University, Bugwood.org.*

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